

CLAIMS

1. A vehicle outside-image display apparatus, comprising:
 - a vehicle outside-image capturing unit that captures a vehicle's outside image by a camera;
 - an image receiving unit that receives vehicle outside-image information from outside;
 - an image combining unit that combines the vehicle outside-image information received by the image receiving unit with the image captured by the vehicle outside-image capturing unit; and
 - an image display device that displays renewed vehicle outside-image information produced by the image combining unit.
2. The vehicle outside-image display apparatus according to claim 1, wherein the image receiving unit receives the vehicle outside-image information from a vehicle ahead of a vehicle equipped with the vehicle outside-image display apparatus.
3. The vehicle outside-image display apparatus according to claim 1, wherein the image combining unit combines a portion of the vehicle outside-image information received by the image receiving unit with the image captured by the vehicle outside-image capturing unit.
4. The vehicle outside-image display apparatus according to claim 1, further comprising an image transmitting unit that transmits the renewed vehicle

outside-image information produced by the image combining unit to outside.

5. The vehicle outside-image display apparatus according to claim 4,
wherein the image transmitting unit transmits the renewed vehicle
5 outside-image information produced by the image combining unit to a rearward
vehicle relative to a vehicle equipped with the vehicle outside-image display
apparatus.

6. The vehicle outside-image display apparatus according to claim 1,
10 further comprising:

a following distance measuring unit that measures a following distance
between a vehicle equipped with the vehicle outside-image display apparatus
and a vehicle ahead thereof; and

15 a field-of-vision condition determining unit that determines, with the
following distance measuring unit, whether or not a forward field of vision is
blocked,

wherein vehicle outside-image information is received from the image
receiving unit when it is determined that the forward field of vision is blocked by
the vehicle ahead.

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7. The vehicle outside-image display apparatus according to claim 1,
further comprising:

25 a three-dimensional measuring unit that performs, by a
three-dimensional measuring instrument, a three-dimensional measurement for
an environment in a picture range captured by the vehicle outside-image

capturing unit;

 a measurement value receiving unit that receives a three-dimensional measurement value from outside; and

 a viewpoint converting unit that converts the vehicle outside-image information to have a viewpoint from the camera based on the three-dimensional measurement value received by the measurement value receiving unit and supplies the converted information to the image combining unit.

10 8. The vehicle outside-image display apparatus according to claim 7, further comprising a measurement value combining unit that combines the three-dimensional measurement value received by the measurement value receiving unit with the three-dimensional measurement value acquired by the three-dimensional measuring unit.

15 9. The vehicle outside-image display apparatus according to claim 8, further comprising a measurement value transmitting unit that transmits a renewed three-dimensional measurement value produced by the measurement value combining unit to outside.

20 10. The vehicle outside-image display apparatus according to claim 9, wherein the measurement value transmitting unit transmits the renewed three-dimensional measurement value produced by the measurement value combining unit to a rearward vehicle relative to the vehicle equipped with the

25 vehicle outside-image display apparatus.

11. The vehicle outside-image display apparatus according to claim 1,
wherein the image receiving unit receives vehicle outside-image information
from an obstructive object that obstructs a field of view ahead of a vehicle
- 5 equipped with the vehicle outside-image display apparatus.